Wednesday, March 22, 2017 **[W455]**
VOLCANIC PROCESSES ON SILICATE BODIES
1:30 p.m. Montgomery Ballroom

Chairs: **William Garry**
Jeffrey Andrews-Hanna

1:30 p.m. Seeger C. H. * Cox R.
Geomorphology of Mountains on Io Provides Insight into Mountain-Patera Relationships **[#1675]**
Io's mountains are geomorphologically diverse, recording a range of erosion histories. The most degraded mountains are close to paterae.

1:45 p.m. Slezak T. J. * Radebaugh J. Christiansen E. H.
Eigenshape Analysis of Planetary Craterforms: Implications for the Formation of Paterae on Io **[#2871]**
The shapes of craterforms formed by different processes are quantitatively analyzed and compared to infer possible formation mechanisms for paterae on Io.

2:00 p.m. Jawin E. R. * Head J. W. Kreslavsky M. A. Wilson L.
Stealth Dome in Central Oceanus Procellarum: Using Detrended Topography Data to Reveal the Hidden Past of the Prinz-Harbinger Region **[#1184]**
Detrended topography data reveal a large dome in the Prinz-Harbinger region that implicate a multi-stage volcanic history for the region.

2:15 p.m. Haruyama J. * Kaku T. Shinoda R. Miyake W. Kumamoto A. et al.
Detection of Lunar Lava Tubes by Lunar Radar Sounder Onboard SELENE (Kaguya) **[#1711]**
An intact lava tube at nearly 100 m depth extends a few tens of kilometers at Marius Hills on the Moon, based on SELENE Lunar Radar Sounder (LRS) echo data.

2:30 p.m. Needham D. H. * Hamilton C. W. Bleacher J. E. Whelley P. L. Young K. E. et al.
Lava Eruption and Emplacement: Using Clues from Hawai'i and Iceland to Probe the Lunar Past **[#1177]**
Eruptions in Iceland and Hawai'i were studied to identify flow morphologies linked to pulses in vent activity that can thus be used to calculate eruption flux.

2:45 p.m. Garry W. B. * Hughes S. S. Kobs Nawotniak S. E. Whelley P. L. Lim D. S. S. et al.
Planetary Exploration of Lava Tubes with Lidar at Craters of the Moon, Idaho **[#1207]**
We present findings that demonstrate the scientific and operational potential of lidar to explore planetary pits and discuss our results for Indian Tunnel lava tube.

3:00 p.m. Young K. E. * Bleacher J. E. Needham D. H. Evans C. A. Whelley P. L. et al.
Field Detection of Chemical Assimilation in a Basaltic Lava Flow **[#2706]**
Hawaiian lava / Chemically assimilates / Changing emplacement?

3:15 p.m. Bonnefoy L. E. * Hamilton C. W. Scheidt S. P. Voigt J. Hoskuldsson A. et al.
Landscape Evolution After the 2014–2015 Lava Flow at Holuhraun, Iceland **[#1652]**
We compare topography before and after the emplacement of the 2014–2015 lava flow field in Holuhraun, Iceland to study associated landscape evolution processes.

3:30 p.m. Schaefer E. I. * Hamilton C. W. Neish C. D. Sori M. M. Bramson A. M. et al.
Seeing Pāhoehoe from Orbit (Without Squinting) **[#2343]**
We are developing a method to identify morphologic lava flow type (e.g., pāhoehoe) from even coarse (>80 m/pixel) orbital imagery using fractal analysis.

3:45 p.m. Whelley P. L. * Richardson J. A. Hamilton C. W.
Lava Channel Textures in Tartarus Colles, Elysium Planitia, Mars **[#2491]**
Roughness patterns, derived from HiRISE DTMs, are used to infer lava textures and flow emplacement dynamics on Mars.

4:00 p.m. Christoph J. M. * Garry W. B.
Spatial and Temporal Relationships Among Low Shield Volcanoes in the Ceraunius Fossae Region of Tharsis: The Last Gasp of Martian Volcanism **[#2798]**
We mapped and dated lava flows from low shield volcanoes at Ceraunius Fossae in Tharsis, finding that these are some of the youngest volcanoes studied on Mars.

4:15 p.m. Andrews-Hanna J. C. * Soto A.
Climatic Control Over Explosive Volcanism on Mars **[#2867]**
Climate models and geophysical models support the possibility that periodic ice deposition on martian volcanoes led to climatic control over explosive volcanism.

4:30 p.m. Ojha L. * Lewis K. Karunatillake S.
Volcanic Origin of Medusae Fossae Formation from Gravity and Topography Data **[#2475]**
We localize the gravity and topography signature of MFF and place a direct constraint on its density.